

DEVIS autumn 2014

MIMR-PHI CHANGES THE LANDSCAPE OF MEDICAL RESEARCH

MONASH INSTITUTE OF MEDICAL RESEARCH AND PRINCE HENRY'S INSTITUTE HAVE MERGED



AUSTRALIA-INDIA RESEARCH COLLABORATION - SUPPORT FROM HIGH COMMISSIONER



NHMRC AWARDS \$5.5M TO GENDER RESEARCH



HOFFENBERG MEDAL FOR PROF ROB MCLACHLAN



'THE CURE STARTS NOW' MR REN PEDERSON VISITS MIMR-PHI We are in the fortunate position of being able to tell the full story of health innovation on one precinct, from the early stages of discovery in the laboratory to clinical research and trials through to translation and patient care.

Prof Bryan Williams

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DIRECTOR'S MESSAGE

The process of becoming MIMR-PHI has been both exciting and challenging, as we have navigated this once-in-alifetime opportunity to shape who we are as an organisation as the architects of our future.



We are one of the state's top five medical research institutes, and are committed to using our influence to drive the future of medical research and set an agenda that will make a real and lasting difference for all.

We now have the extraordinary opportunity to change the medical and scientific landscape here in Melbourne's southeast, as we not only have the resources and partnerships to do this, but the outstanding research talent. Talent such as gender expert, Professor Vincent Harley, and Oncogenic Signalling researcher, Dr Jaqueline Donoghue, who are working at the cutting-edge of their fields to take us into new areas of discovery, with the potential to shape future clinical outcomes. Already, our breadth of research talent has received recognition with Dr Anna Vlahandonis and Professor Rob McLachlan both recently winning prestigious awards for their research excellence. You can read about their achievements and research in the following pages of this issue.

Recently we held our first community fundraising event, Ride for Research. The 'can do' spirit of this year's team and their determination to cycle over 520 km in only two days, provided a positive platform to begin our engagement as MIMR-PHI and bring together key stakeholders, donors, and staff through their support of the 2013 campaign. It was wonderful to witness this display of community and I hope this event will continue to be a central fixture in the Institute's fundraising calendar.

I hope you enjoy this inaugural issue of MIMR-PHI news, your first look at the outstanding capabilities and successes of the MIMR-PHI Institute. I look forward to bringing all MIMR and PHI supporters together to share our discoveries and achievements in the years ahead, as we continue to build MIMR-PHI and strengthen its influence within the national and global research communities.

Together I believe we can set a research agenda that focuses on areas of critical need and actively impact the next generation of healthcare.

mm R.S. Williams

Professor Bryan Williams Institute Director

Image: North west corner, Translational Research Facility building, currently under construction.

MIMR-PHI CHANGES LANDSCAPE OF MEDICAL RESEARCH

"I believe the new Institute is not only positioned to make a difference to the health of Australians, but also to protect the future of medical science by fostering the next generations of research innovators."

n a move that has changed the landscape of Victorian medical research, leading medical research brands, Monash Institute of Medical Research and Prince Henry's Institute have joined forces as MIMR-PHI Institute of Medical Research.

MIMR-PHI Institute Director, Professor Bryan Williams believes the merger, which he describes as a natural progression of a long and successful partnership, and the institute's position, as one of the state's top five independent medical research institutes will also benefit Melbourne's southeast corridor.

"By allowing us to take our place as a research leader, this merger has strengthened our influence both nationally and globally and helped to elevate Melbourne's southeast corridor as a hub for translational research. This means we have the opportunity to take a driving role in setting the Australian and global research agendas to focus attention on the discoveries and healthcare needed most," said Professor Williams.

As the translational research centrepiece on Clayton's Monash Health Translation Precinct (MHTP), MIMR-PHI Institute will continue to maintain strong links with Monash Health and Monash University, as the three precinct partners boost research on the site through the construction of an \$84 million translational research facility due for completion in late 2015.

"Our MHTP location enables us to maintain close partnerships with leading health and education providers, Monash Health and Monash University, and provides access to research spaces designed to enhance discovery and translation. This places us in the best possible position to address areas of critical need, as well as expedite translation so our discoveries reach the bedside in the shortest possible timeframe," says Professor Williams.

In addition to the new cuttingedge facilities, MIMR-PHI's 400 researchers and students will benefit from increased funding competitiveness, as well as onsite state-of-the-art equipment and technology platforms, and clinical access for research translation.

This will not only mean greater research capability but increased capacity to shape future healthcare. "I believe the new Institute is not only positioned to make a difference to the health of Australians, but also to protect the future of medical science by fostering the next generations of research innovators."

With a team of leading clinicians and researchers as well as access to one of the state's best hospitals, research at MIMR-PHI will not stop in the laboratory.

"We are in the fortunate position of being able to tell the full story of health innovation on one precinct, from the early stages of discovery in the laboratory to clinical research and trials through to translation and patient care. There is something very special about this place's ability to carry a simple idea through to the stage of making a real difference and improving or saving lives."



AUSTRALIA-INDIA RESEARCH COLLABORATION SPARKS SUPPORT OF HIGH COMMISSIONER

In an exciting step towards strengthening Australian-Indian research collaborations and a vital tool in joint efforts to tackle cerebral palsy in rural India, experts at MIMR-PHI Institute of Medical Research and Monash Health recently hosted the Australian High Commissioner to India, Mr Patrick Suckling, to brief him on their plans to decrease the incidence of cerebral palsy in India.

As a result of the visit, Mr Suckling has agreed to facilitate the establishment of a cerebral palsy clinic in Lucknow, India.

During Mr Suckling's visit he met with Professor Euan Wallace, Clinical Deputy Head of The Ritchie Centre at the Institute and Chair of Monash Health's Department of Obstetrics and Gynaecology. Professor Wallace said the Cerebral Palsy Clinic would supplement his team's research at Lucknow's



L - R: Dr Atul Malhotra, Prof Euan Wallace, A/Prof Michael Fahey, Mr Patrick Suckling, Dr Suzie Miller

"We hope that by protecting the delicate newborn brain, this treatment may prevent cerebral palsy caused by birth asphyxia from occurring, this would represent a major clinical breakthrough that has the potential to reduce the burden of this disease in low resource communities around the world".

Community Empowerment Laboratory, where they are setting up a world-first clinical trial for the prevention of cerebral palsy with the support of funding from the Bill & Melinda Gates Foundation.

An important aspect of the program is the training of local birth attendants to improve their skills in identification of birth asphyxia. They will then test the effectiveness of the powerful anti-oxidant, melatonin, administered via a simple skin "patch", in the prevention of birth asphyxia linked cerebral palsy.

"We hope that by protecting the delicate newborn brain, this treatment may prevent cerebral palsy caused by birth asphyxia from occurring, this would represent a major clinical breakthrough that has the potential to reduce the burden of this disease in low resource communities around the world".

This represents a major step towards tackling what is a fast becoming a major health burden for India, with one out of every 50 babies born diagnosed with a cerebral palsy complication, a figure that is alarmingly higher than the global average of one in 500 births. Given the condition's social and economic impacts, Professor Wallace believes the success of this trial would be a significant breakthrough for protection of vulnerable babies.

MIMR-PHI's location on Clayton's Monash Health Translation Precinct and in close proximity to precinct partners Monash Health and Monash University has enabled Professor Wallace and his research team to work closely with clinicians to expedite translation of research findings leading to this trial.

The team have already begun the training phase of the trial, which will continue as the treatment phase is rolled out in in late 2014.



NHMRC awards \$5.5m to cutting-edge gender research

The NHMRC has awarded a team of scientists, including researchers from MIMR-PHI Institute, University of Queensland (UQ) and Murdoch Children's Research Institute (MRCI) more than \$5.5 million to continue their groundbreaking research on "Disorders of Sex Development: Genetics, Diagnosis, Informing Clinical Care".

The third Program Grant for gender experts, Professors Vincent Harley (MIMR-PHI), Andrew Sinclair (MCRI) and Peter Koopman (UQ), the funding is a continuation of the group's cutting-edge research investigation to identify and study the functions of novel genes associated with typical and atypical sex development. By improving diagnostic accuracy and management of DSDs such as genital ambiguity (intersex), ATR-X syndrome (genetic disorder linked with cranial and genital deformities, developmental delays and intellectual disability), and hyposadias, they hope to redefine best practice for clinical management and patient support, particularly where clinical intervention is required.

The funding will also enable the group to continue development of a range of online resources to share their research findings, including a website launched in 2013 to increase community and clinical awareness of DSDs, as well as empower and educate patients and their families. The group's website www.dsdgenetics.org/index. php, addresses a significant gap in guality science driven information about gender and gender development. The site received over 5000 hits globally in the first week of its launch, confirming the need for such a resource.

As they redefine our understanding of gender, the group continues to demonstrate just how effective and powerful collaborative research can be, in a partnership best described as medical science and translation at its very best.

Professor Harley and his group in MIMR-PHI's Sex Determination and Gonadal Development Laboratory, also recently received a three-year NHMRC project grant to develop animal models of Disorders of Sexual Development.

NEWS IN BRIEF

Distinguished MIMR-PHI researcher wins Hoffenberg Medal

The Society of Endocrinology (UK) recently honoured MIMR-PHI Senior Researcher and Deputy Endocrinology and Metabolic Disease Centre Head, **Professor Rob McLachlan**, with the 2014 Hoffenberg International Medal, a prestigious award given to an outstanding endocrinologist outside of the UK. Professor McLachlan, who travelled to the UK to attend the Society's recent annual meeting and medal presentation, received the award in recognition of his major contributions to scientific discovery, translation into clinical practice and education in male reproductive health, as well as his international collaborations.



Protein discovery recognised with Milstein Award



MIMR-PHI Deputy Director, Professor Paul Hertzog's discovery of the innate immune protein, interferon epsilon (IFNe) received international recognition when he was named winner of the highly prestigious Seymour & Vivian Milstein Award in 2013. Presented at the Cytokines 2013 Conference in San Francisco, the International Cytokine Interferon Society prize, commonly referred to as the Milstein Award, recognises exceptional contributions to interferon research which advance human health.

The IFNe protein, found in the female reproductive tract where it acts to boost immune responses, protects against sexually transmitted infections (STIs) including chlamydia and the herpes simplex virus. With more than 450 million new cases diagnosed each year worldwide and the number of cases of chlamydia trebling in Australia over the last decade, STIs and their associated health risks such as infertility and serious pregnancy complications, remain a major global social and economic health challenge. A challenge Professor Hertzog and his team at MIMR-PHI are a step closer to tackling, having successfully used IFNe to treat symptoms of chlamydia and genital herpes infections in mice.

While still in the early stages, early results from this research indicate women are most at risk of STIs during stages of their cycle where IFNe is lowest. This confirms IFNe's key role in protecting against infection, confirming the proteins usefulness as the basis for new treatments and possibly a vaccine for common STIs.

This research first appeared in Science in March 2013. The group published further studies investigating the interferon receptor in Nature Immunology in July 2013. For Professor Hertzog, receiving the award and recognition from his colleagues has been a 'wonderful honour' after over eight years of dedicated research to characterise IFNe and understand its impact on women's health.

Ritchie Centre student honoured with Mollie Holman Award



As the Faculty of Nursing Medicine and Health Sciences' 2013 recipient of Monash University's prestigious Mollie Holman Medal for the best doctoral thesis, The Ritchie Centre's Dr Anna Vlahandonis was selected as the best of 178 PhDs, three times the number in any other Faculty. Presented for the top PhD thesis in each Faculty and named in memory of pioneering physiologist, Emeritus Professor

Supporter News

Mollie Holman AO, the award recognises thesis excellence, as evidenced by examiners comments, publication output, and quality.

Described by examiners as outstanding, Anna's PhD thesis "Long-term sleep and cardiovascular changes in children with sleep disordered breathing: a four year follow-up" suggests cardiovascular abnormalities resulting from sleep disordered breathing in childhood are potentially reversible, with results indicating that there is a link between reduced blood pressure, improved cardiovascular control and improvement in sleep disordered breathing. Currently combining a teaching associate position at Monash University with clinical work at the Melbourne Children's Sleep Centre, Dr Vlahandonis continues to collaborate with her Ritchie Centre supervisors, Professor Rosemary Horne and Dr Lisa Walter. The Ritchie Centre has an outstanding record of winning this award with previous winners include Dr Scott Sands (2010) and Dr George Schmoelzer (2011).

You can find out more about MIMR-PHI Institute's research on our website: www.mimr-phi.org

The Cure Starts at MIMR-PHI



Mr Ren Pederson with Dr Jacqueline Donoghue, Centre for Cancer Research

Mr Ren Pederson, Founder of the Australia branch of global charity, The Cure Starts Now, visited MIMR-PHI in November to present Dr Jacqueline Donoghue with a \$109,000 research grant to tackle Diffusive Intrinsic Pontine Glioma or DIPG.

The grant represents another step in Mr Pedersen's quest to fight the deadly brain stem cancer, which along 99.9 percent of its young victims, took his daughter Amy's life in 2011. Dr Donoghue and her team in MIMR-PHI's Centre of Cancer Research will use the funding to help find a much-needed cure, with the team to test existing therapies known to be effective in adults with similar tumours. They hope to determine their effectiveness as paediatric treatments, as well as investigate the potential of human amniotic stem-cell therapies to treat the disease, as well as improve treatment delivery.

Fielding Hypoxia Suite



L - R: Mr Peter Fielding, Professor Bryan Williams and Dr Ellen Menkhorst, Centre for Reproductive Health

MIMR-PHI's breadth of research expertise impressed Mr Peter Fielding, when he joined Institute Director, Professor Bryan Williams and a group of staff and researchers at the opening of the Fielding Hypoxia Suite in December. The suite, which will enable researchers to mimic oxygen concentration levels in the body to grow cells and model natural cellular processes, is named in honour of Mr Fielding's Foundation, which donated \$90,000 towards the purchase of this vital research equipment.

Ron Evans Golf Day



Ron Evans Golf Day 2013, Royal Melbourne Golf Club

For the seventh year running, the Evans family joined forces with MIMR-PHI in November, to raise almost \$190,000 for Bowel Cancer research at the 2013 Ron Evans Golf Day.

This year's event attracted 112 golfers who made their way around the course in groups of four, then celebrating Ron's life and legacy at a gala dinner and silent auction.

Ron Evans was an Australian rules footballer, Chairman of the AFL, President of the Essendon Football Club, a respected businessman and renowned philanthropist. Touted as the 'best yet', the 2013 tournament was taken out by several of Ron's close friends who accepted the Perpetual trophy with some touching words in his memory. MIMR -PHI is extremely grateful for the support of the Evans family, with all funds raised supporting current Ron Evans Cancer Research Fellow, Dr Afsar Ahmed, who is researching bowel cancer at the institute's Centre for Cancer Research.

Event Supporters

BOOM

COLLISON

Zouki

Ride for Research



With Mother Nature on their side, team MIMR-PHI completed the 2014 Murray to Moyne, cycling through scenic Victoria at its autumn best in support of the Institute's research.

The group cycled the 520 km two-day event with this year's event raising over \$22,000 for vital research equipment. Boom Logistics, Zouki and long-time ride partners, Davies Collison Cave, kindly sponsored the event again this year.





Australian Government National Health & Medical Research Council



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